

AMENDMENTS TO THE CLAIMS

1. **(Canceled)**.

2. **(New)** A method for measuring the temperature of a subject using a minute size temperature sensing element, said temperature sensing element comprising a carbon nanotube with a continuous column of gallium contained therein, with one end opened and the other end closed, which comprises:

- a. inserting the temperature sensing element into a subject to be measured in air,
- b. heating the subject thereby expanding the gallium in said column,
- c. oxidizing the gallium in said column in air to produce a gallium oxide layer which is firmly bonded to the nanotube,
- d. cooling the subject,
- e. removing the temperature sensing element from the subject, and
- f. measuring the location of the top end of said gallium oxide layer in said nanotube as an indication of the temperature of said subject.

3. **(New)** The method according to claim 2 wherein the gallium oxide top end location in a carbon nanotube is measured at different temperatures by transmission electron microscopy before measuring the temperature of said subject.

4. **(New)** The method according to claim 3 wherein the gallium oxide top end location after removal from said subject is measured by transmission electron microscopy and compared with the location of said top end measured at different temperatures.